State of Oregon
Building Codes Division
Better Buildings for Oregon

OREGON SEISMIC DESIGN CATEGORIES

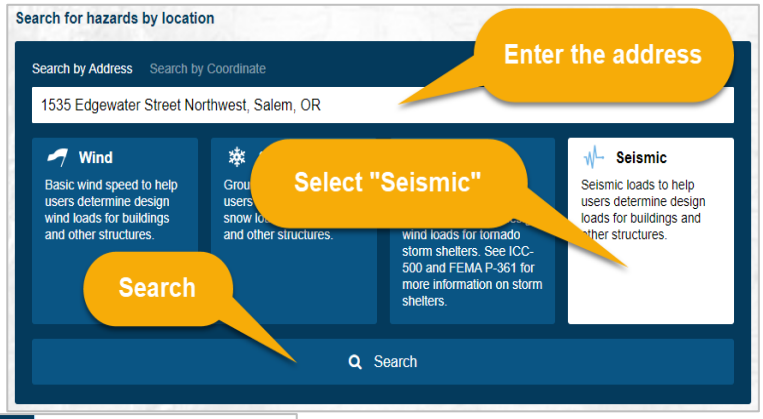
Use the ATC hazards by location webtool, provided by the Applied Technology Council (ATC), for site-specific seismic design category determination or verification. Follow these steps to help you through the process.

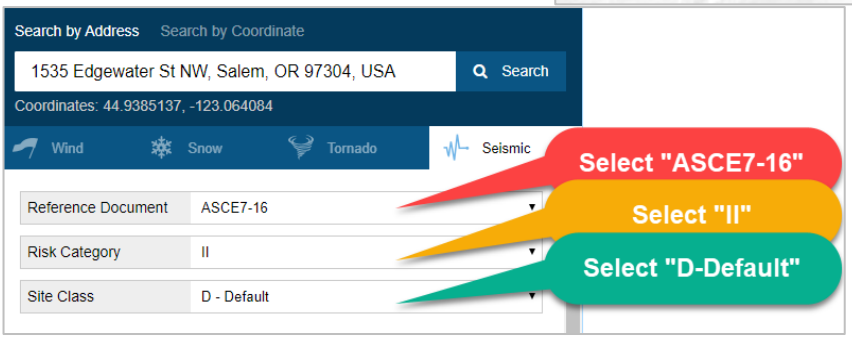
Hazards.atcouncil.org

Example: Building Codes Division

Address: 1535 Edgewater Street NW, Salem, OR 97304

1. Visit the website
2. Enter the address
3. Select “Wind”
4. Select “Search”
5. A dynamic map of the area will open, and you will be prompted to “Select a dataset.”





Selections

Reference document:	ASCE 7-16
Risk Category:	II
Site Class:	D – Default

6. Use the reported S_{DS} value and Table R301.2.2.1.1, Seismic Design Category Determination, to find the corresponding Seismic Design Category based on the S_{DS} found under Basic Parameters.

Basic Parameters

Name	Value	Description
S_S	0.837	MCE_R ground motion (period=0.2s)
S_1	0.421	MCE_R ground motion (period=1.0s)
S_{MS}	1.005	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	0.67	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

TABLE R301.2.2.1.1
SEISMIC DESIGN CATEGORY DETERMINATION

CALCULATED S_{DS}	SEISMIC DESIGN CATEGORY
$S_{DS} \le 0.17g$	A
$0.17g < S_{DS} \le 0.33g$	B
$0.33g < S_{DS} \le 0.50g$	C
$0.50g < S_{DS} \le 0.67g$	D_0
$0.50g < S_{DS} \le 0.83g$	D_1
$0.83g < S_{DS} \le 1.25g$	D_2
$1.25g < S_{DS}$	E